

**Remarks/Arguments:**

Claims 8-9 and 11-30 are canceled without prejudice. Claim 31 is amended. Support for the amendment can be found, e.g., at page 26, lines 5-9 of the specification. No new matter is introduced.

Claims 1-7, 10, and 31-35 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

**CLAIM REJECTIONS UNDER 35 USC § 103(a)**

Claims 31-33 remain rejected as being unpatentable over Palmieri et al. (Journal of Clinical Oncology 19(5):1437-1443; "Palmieri") in view of Scholl et al. (Cancer Research 61:823-826; "Scholl") and Kuo et al. (Clinical Cancer Research 4:411-418; "Kuo").

Claim 31, as amended, is directed to a method for detecting the expression of a panel of marker genes in a patient. The method involves the steps of (a) obtaining a sentinel lymph node (SLN) sample from a melanoma patient, wherein the sample is histopathologically negative for melanoma cells; (b) isolating nucleic acid from the sample; (c) amplifying mRNA transcripts encoded by a panel of marker genes from the nucleic acid from the SLN sample obtained from the melanoma patient, wherein the panel comprises GalNAcT, PAX3, or both; and (d) detecting the levels of the mRNA transcripts encoded by the panel of marker genes, wherein the levels of the mRNA transcripts are indicative of the presence of mRNA transcripts encoded by GalNAcT, PAX3, or both.

Palmieri discloses detection of Tyrosinase and MART-1 in histopathologically negative SLN samples obtained from melanoma patients (see page 1437, left column, 1<sup>st</sup> paragraph, lines 7-12 and 2<sup>nd</sup> paragraph, lines 3-5). Scholl discloses detection of PAX3 in cultured primary melanomas and their corresponding tissue sections (see page 823, left column, Abstract, lines 5-11 and right column, last paragraph, lines 4-6). Kuo discloses detection of GalNAcT in melanoma cell lines,

primary melanoma biopsies, histopathologically positive tumor-draining lymph node (TDLN) metastases, distal organ metastases, and blood (see page 413, right column, Table 1 and 1<sup>st</sup> paragraph following Table 1, lines 14-15; page 414, left column, Table 2).

As agreed by the Examiner, none of the cited references discloses detection of GalNAcT or PAX3 in histopathologically negative SLN samples (the Office Action, page 4, lines 40-43). However, the Examiner believed that one skilled in the art would have been motivated to detect GalNAcT or PAX3 in histopathologically negative SLN samples and would have done so with a reasonable expectation of success. In particular, the Examiner stated that “there would be an expectation of success in detecting levels of GalNAcT or PAX3 (both levels indicative of no transcripts and levels indicative of GalNAcT or PAX3 transcripts)” (the Office Action, page 5, lines 13-19, emphasis added).

Without acquiescence in the Examiner’s rejections and for the sole purpose of moving this application forward, Applicants have added in claim 31 “wherein the levels of the mRNA transcripts are indicative of the presence of mRNA transcripts encoded by GalNAcT, PAX3, or both.” Even if one skilled in the art would have been motivated to examine GalNAcT or PAX3 expression in histopathologically negative SLN samples with a reasonable expectation of detecting some levels of GalNAcT or PAX3 mRNA transcripts (which Applicants do not concede to for the reasons presented in previous responses to Office Actions), one skilled in the art would not have reasonably expected that the detected levels of GalNAcT or PAX3 mRNA transcripts are indicative of the presence of GalNAcT or PAX3 mRNA transcripts, because each gene has a unique expression pattern and none of the cited references suggests the expression of GalNAcT or PAX3 in histopathologically negative SLN samples from melanoma patients.

Therefore, claim 31, as amended, is patentable over the cited art. Claims 32-33, dependant directly or indirectly from claim 31, are also patentable over the cited art for at least the same reasons. The rejections should be withdrawn.

#### DOUBLE PATENTING

Claims 1-7, 10, and 31-34 remain provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims 1-16 of co-pending U.S. Patent Application No. 11/227,575. A Terminal Disclaimer in compliance with 37 CFR § 1.321(c) is submitted herewith to obviate this rejection. Applicants respectfully request that the rejection be withdrawn.

#### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned at the Los Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

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Respectfully submitted,  
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By: \_\_\_\_\_



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